Section D
Spent Nuclear Fuel

PROJECT MANAGERS
S.J. Veitenheimer, RL
(509) 373-9725

J.H. Wicks Jr., FH
(509) 373-9372

SUMMARY

The Spent Nuclear Fuel (SNF) mission consists of the Spent Nuclear Fuel Project (SNFP) WBS 1.3.1.1 (Project Baseline Summary [PBS] WM01) and the subsequent Canister Storage Building (CSB) Operations Project WBS 1.3.2.1 (PBS WM02), which does not start until FY 2004.

NOTE: Unless otherwise noted, the Safety, Conduct of Operations, Milestone Achievement, and Cost/Schedule data contained herein is as of April 30, 2001. All other information is as of May 25, 2001.

Fiscal year-to-date milestone performance (EA, HQ, and RL) showed that three out of four milestones (75 percent) were completed late and one milestone is overdue.

The Milestone Achievement details, found following the cost and schedule variance analysis, provide further information on all milestone types.

NOTABLE ACCOMPLISHMENTS

Fuel Movement Activities — Nine Multi-Canister Overpacks (MCOs) - 183 canisters - have been removed from K West (KW) Basin for a total of 42.46 Metric Tons of Heavy Metal (MTHM) shipped. The eighth MCO was shipped to the Canister Storage Building (CSB) on May 14, 2001, and the ninth MCO was shipped to the Cold Vacuum Drying (CVD) facility on May 16, 2001. Progress with KW modifications continued. These included the modification to allow process water receipt from the CVD, reduced primary cleaning machine cleanout cycle, and the manual process table installation preparation is proceeding. SNF completed the last post-Operational Readiness Review (ORR) readiness task at the CVD, and conducted a standard startup evaluation of the process water transfer, then pumped the process water to a tanker truck. DOE completed their evaluation and authorized dual bay operations at the CVD.

Spent Nuclear Fuel (SNF) Project Maintenance Outage — The first Project maintenance outage concept was successfully accomplished three days ahead of schedule attributed to thorough planning and execution. All delayed corrective maintenance actions were completed, post maintenance testing accomplished, and work packages closed out prior to plant startup. In total, over 400 work packages were completed. This was the first maintenance outage utilizing craft personnel on two shifts per day. The safety performance during the maintenance outage was outstanding, with no worker injuries or procedural non-compliances reported, and with the majority of work in the CVD being performed for the first time.

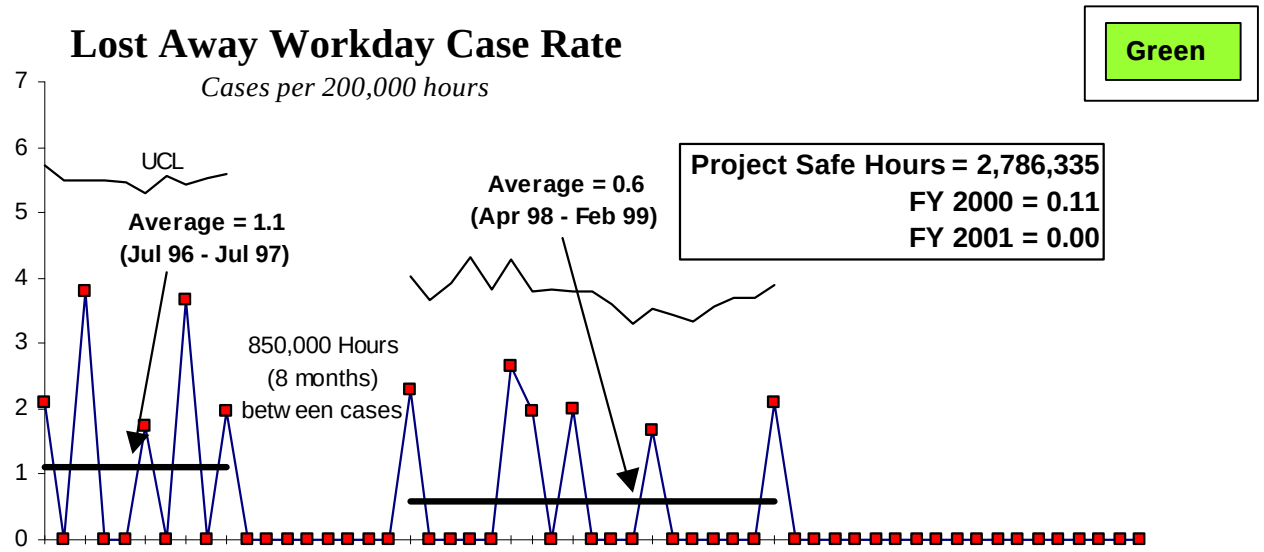
Modified Security Posture — The Project implemented a modified security posture, saving time in accessing the basins and improving operator training by allowing new operators into the basins sooner. This action improves the number of operators available to process fuel without security representatives on watch and saves time and money associated with security checks. Due to this posture, the Project went through badge change-outs for all cleared personnel.

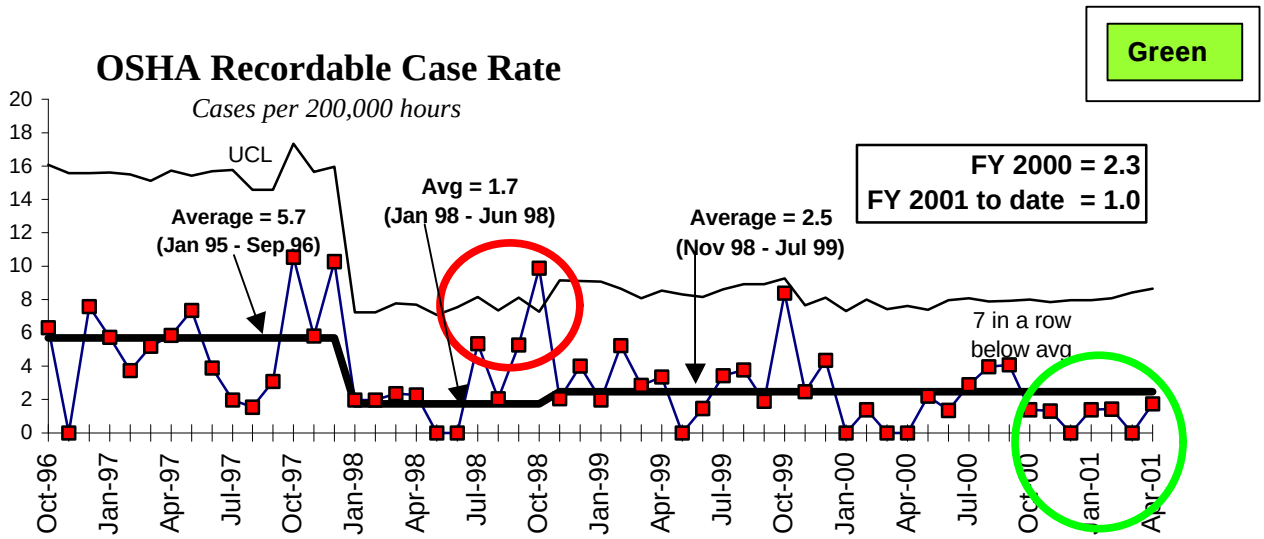
K Basins Construction Projects — Procurement packages were awarded for the Fuel Retrieval System (FRS) KW Basin production improvement project. The Baseline Change Request (BCR) for the Comprehensive Plan was also implemented. In the K East (KE) Basin, construction activities included initiating closeout of construction work packages based on the approval of the Alternate Fuel Transfer Strategy; loading 75 bags of compactable waste in an Environmental Restoration Disposal Facility (ERDF) shipping container; receiving two ERDF containers for continued waste/debris removal activities; and completing video taping of debris in the dummy elevator pit in preparation for debris removal activities.

MCO Production Rate Improvement Activities — Upgrades accomplished during the April Maintenance Outage included electrical upgrades required for the additional stiff-back grapple crane and three new empty basket queuing tables.

SAFETY

The SNF Project has achieved over 2.7 million safe work hours. No Lost Away Workday Cases have been reported in eighteen months. The SNF OSHA recordable case rate for FY 2001 to date has been favorable, and now shows a statistically significant reduction as the case rate has been below average for seven months. The SNF Project is anticipated to reach three million safe hours at the end of June 2001. There has been a significant increase in First Aid cases over the past two months, with a total of 19 cases reported during March and April 2001.

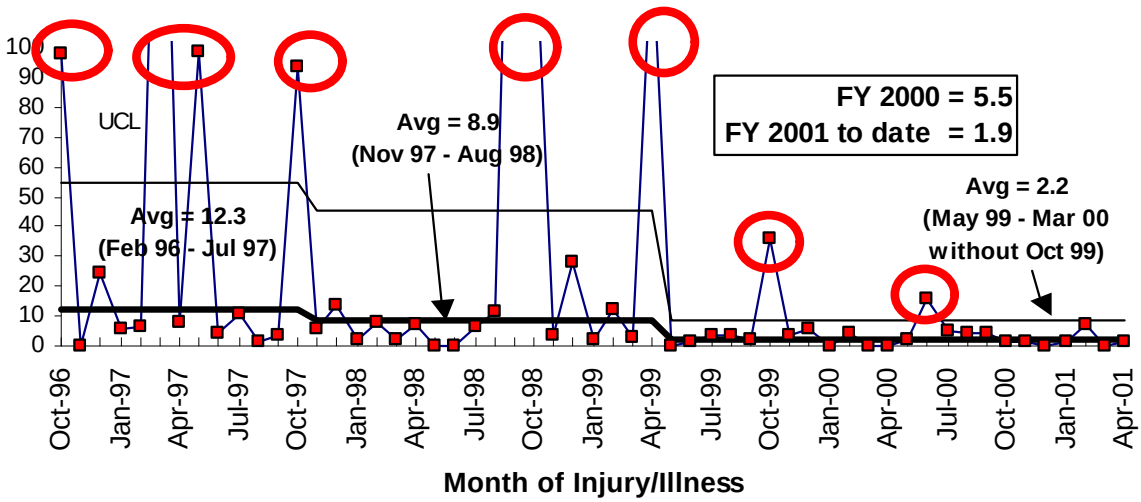




DOE Safety Cost Index

Cents per hour

Green



ISMS STATUS

SNF Project personnel continue to demonstrate a commitment to ISM in "Doing Work Safely". Several examples of this include:

- Coordinated efforts of maintenance, operations and radiological protection organization personnel in removal of the KE divider wall brace.
- Successful completion of the first outage cycle by maintenance and operations personnel.
- Teaming of Operations and Construction staff to complete the final design of the KE fuel removal process and subsequent approval of the Comprehensive BCR.

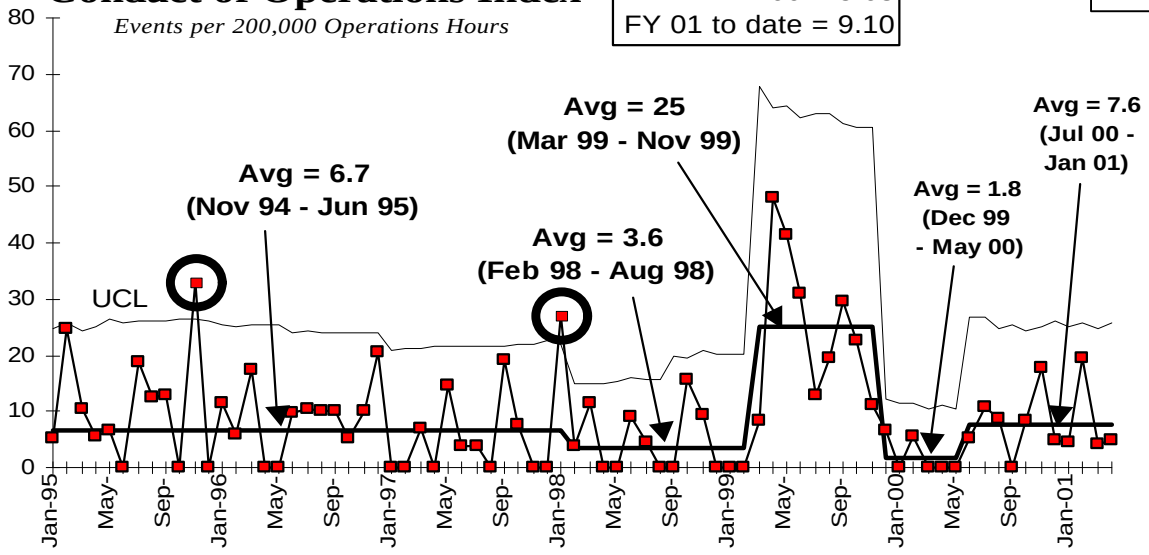
CONDUCT OF OPERATIONS

Green

Conduct of Operations Index

Events per 200,000 Operations Hours

FY 99 = 19.40
FY 00 = 5.68
FY 01 to date = 9.10



A "Time Out for Safety" was conducted following the shipment of the sixth MCO. In an effort to raise the projects focus on worker safety and conduct of operations, a weekly review of lessons learned and occurrence reports is conducted at the opening of the SNF Project senior staff meeting. Trends are reviewed, root causes discussed and follow-up actions assigned. A lessons-learned session was also conducted following the very successful completion of the maintenance outage (during which not even one first aid incident occurred). Meetings to strengthen expectations with shift managers, field work supervisors/Person(s) in Charge, and union stewards are underway.

BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

Green

SNF Accelerated Closure Team (ACT) – The ACT has identified several prospective improvements and breakthroughs that have the potential to further reduce fuel removal processing times and accelerate the completion of the Project. Potential breakthroughs consist of initiatives that could reduce MCO drying, simplify sludge removal and accelerate the project transition to the River Corridor contractor. These initiatives are now being actively evaluated. (Moved from Opportunities for Improvement section.)

MCO Production Rate Improvements – Manual process tables installation in KW will occur in June rather than in the July outage as planned, allowing more readiness practice for operators. (Moved from Opportunities for Improvement section.)

Opportunities for Improvement

None to report at this time.

UPCOMING ACTIVITIES

- Continue MCO shipments through FY 2001.
- Receive and install the Secondary Process Tables at KW in June 2001.
- Perform Shippingport (PA) fuel removal dry run in May 2001.
- Complete implementation of Safety Authorization Basis for receipt and storage of Shippingport (PA) SNF at the CSB in June 2001
- Initiate KW Basin spent nuclear fuel canister cleaning operations in August 2001.
- Receive and install the KW CLS crane.

MILESTONE ACHIEVEMENT

Green

MILESTONE TYPE	FISCAL YEAR-TO-DATE				REMAINING SCHEDULED			TOTAL FY 2001
	Completed Early	Completed On Schedule	Completed Late	Overdue	Forecast Early	Forecast On Schedule	Forecast Late	
Enforceable Agreement	0	0	1	0	0	0	0	1
DOE-HQ	0	0	0	0	0	0	0	0
RL	0	0	2	1	0	1	0	4
Total Project	0	0	3	1	0	1	0	5

Only TPA/EA milestones and all FY2001 overdue and forecast late milestones are addressed in this report. Milestones overdue are deleted from the Milestone Exception Report once they are completed. The following chart summarizes the FY2001 TPA/EA milestone achievement and a Milestone Exception Report follows. The last milestone table summarizes the first six months of FY 2002 TPA/EA milestones.

FY 2001 Tri-Party Agreement / EA Milestones

Number	Milestone Title	Status
M-34-16 (S00-01-900)	**"Initiate Removal of K West Basin Spent Nuclear Fuel"**	**Due 11/30/00 –** Completed on December 7, 2000. Green
M-34-06-T01 (S04-99-521)	**"Initiate K West Basin Spent Nuclear Fuel Canister Cleaning Operations"**	**Due 12/31/00 –** Overdue. Forecast start, August 31, 2001. Green
M-34-26-T01 ****NEW**	**"Approve Start of Construction for the K East and K West Basin facility modifications for AFTS"**	**Due 09/30/01 –** On Schedule. *This Milestone added per Tri-Party Agreement Change Package M-34-01-02. Green

DNFSB Commitments

	Nothing to report at this time.	

MILESTONE EXCEPTION REPORT

Number/WBS	Level	Milestone Title	Baseline Date	Forecast Date

Overdue – 1

S04-99-521 **RL** Start K West Canister Cleaning Operations 12/31/00 8/31/01
1.3.1

Cause: Suspended design last summer to simplify system and reduce costs. SNF Project made a project management decision to defer work to FY 2001 and focus on near-term critical path items.

Impact: No impact to any other SNF Project baseline schedule activities or TPA/DNFSB milestones.

Corrective Action: Currently in design and on schedule; to be started by August 31, 2001.

Forecast Late – 0

FY 2002 Tri-Party Agreement / EA Milestones

Number	Milestone Title	Status
M-34-29 ****NEW**	**"Complete K East Basin and K West Basin facility modifications for AFTS cask transportation system"**	**Due 03/31/2002** On Schedule *This Milestone added per Tri-Party Agreement Change Package M-34-01-02.
M-34-12-T01 (S04-97-621) ****Changed to target date**	**"Complete Construction of K East Basin Integrated Water Treatment System (IWTS) to Support Spent Nuclear Fuel Removal"**	**Due 09/30/2002** On Schedule *Interim milestone changed to target date per Tri-Party Agreement Change Package M-34-01-02.

DNFSB Commitments

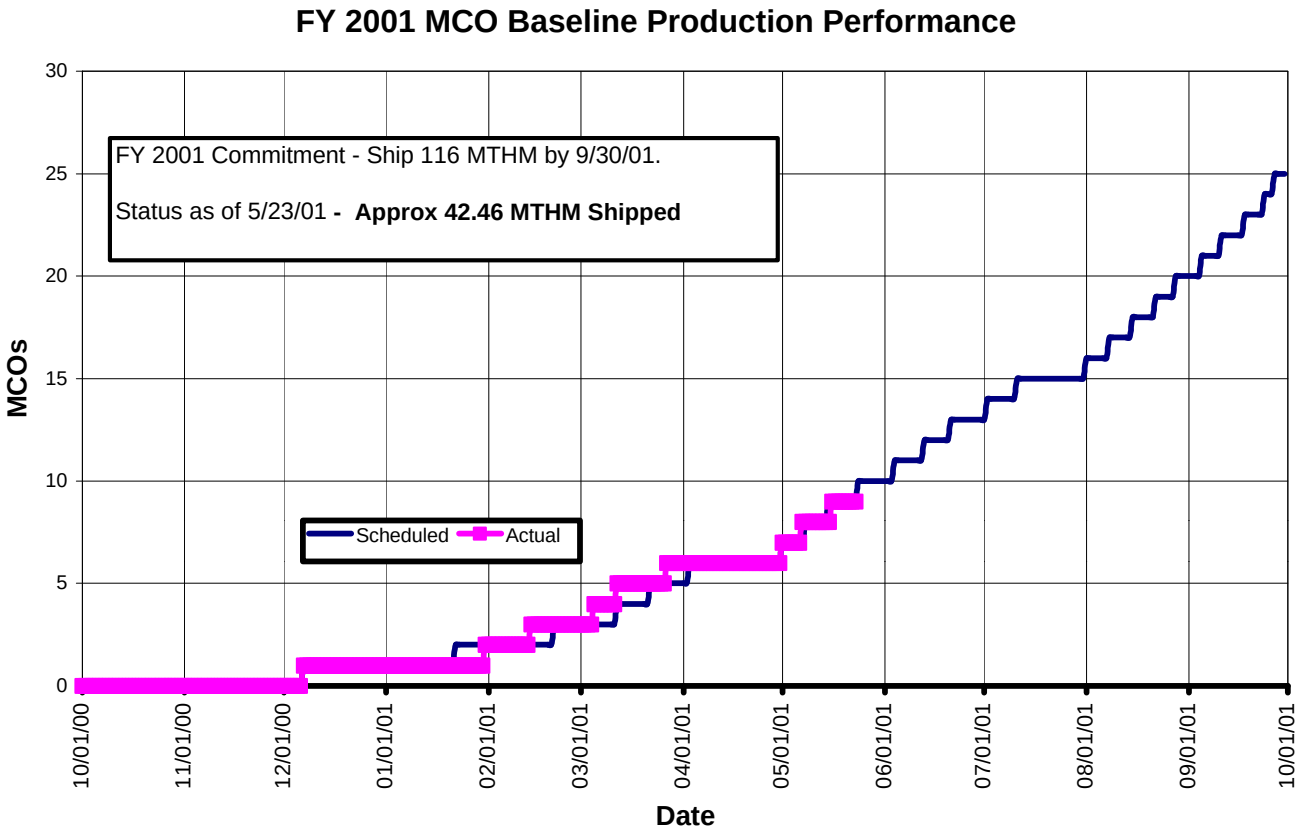
	Nothing to report at this time.	

PERFORMANCE OBJECTIVES

Move Fuel Away from the River

EXPECTATION: Remove spent fuel from K Basins
Move first MCO of SNF from KW Basin and transport to the CVD Facility for processing by December 7, 2000 (TPA M34-16)
Status: Completed on schedule.

Move 116 Metric Tons Heavy Metal from KW Basin by end of FY 2001
Status: On schedule.



The eighth MCO was shipped to the CSB on May 14, 2001. The ninth MCO was shipped to the CVD on May 16, 2001.

FY 2001 Schedule / Cost Performance – All Fund Types
Cumulative to Date Status – ($000)

Green

By PBS		FYTD BCWS	BCWP	ACWP	SV	%	CV	%	PEM	EAC
PBS WM01 WBS 1.3	Spent Nuclear Fuel Project	$ 91,861	$ 90,777	$ 96,918	$ (1,084)	-1%	$ (6,140)	-7%	$ 187,860	$ 189,860
	Total	$ 91,861	$ 90,777	$ 96,918	$ (1,084)	-1%	$ (6,140)	-7%	$ 187,860	$ 189,860

Authorized baseline as per the Integrated Planning Accountability, and Budget System (IPABS) – Project Execution Module (PEM).
Note: Above data includes RL contract for Steam.

FY to Date Schedule / Cost Performance

FYTD, SNFP is behind schedule and over cost. SNFP cost and schedule figures now reflect incorporation of the Accelerated Fuel Transfer Strategy (AFTS) baseline changes, which more accurately portrays current performance. The unfavorable schedule variance of $1.1 million (1 percent) was due to delays in the 200 Area Interim Storage Area (ISA) and sludge design for wet storage.

The unfavorable cost variance of $6.1 million (7 percent) was due to additional facility start up and engineering required to resolve first-of-a-kind equipment issues at K Basins and the Cold Vacuum Drying Facility and subsequent extension of the Operational Readiness Review process. Staffing (and other cost reduction) measures are continuing to mitigate impacts.

For all active sub-PBSs and TTPs associated with the Operations/Field Office, Fiscal Year to Date (FYTD) Cost and Schedule variances exceeding + / - 10 percent or one million dollars require submission of narratives to explain the variance.

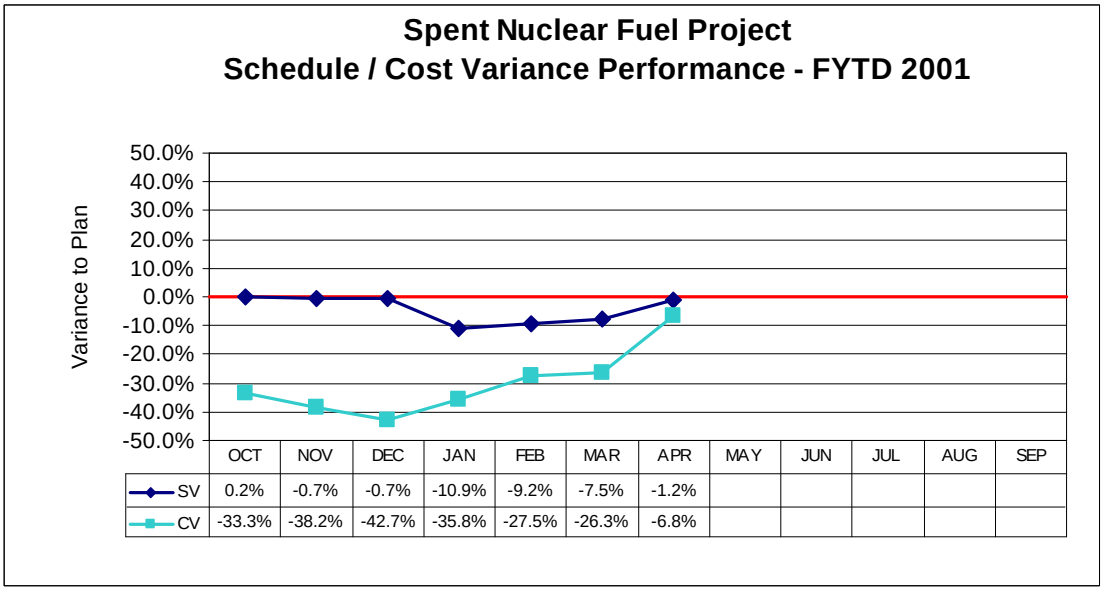
Schedule Variance Analysis: (-$1.1M)

Spent Nuclear Fuel Project — 1.3.1/WM01
Description /Cause: The unfavorable schedule variance is due to delays in the 200 Area Interim Storage Area (ISA) and sludge design for wet storage.
Impact: Potential impacts to future milestones.
Corrective Action: A BCR is being processed that reschedules the 200 Area ISA work within available project float. The wet storage design requirements are being evaluated for elimination (BCR pending).

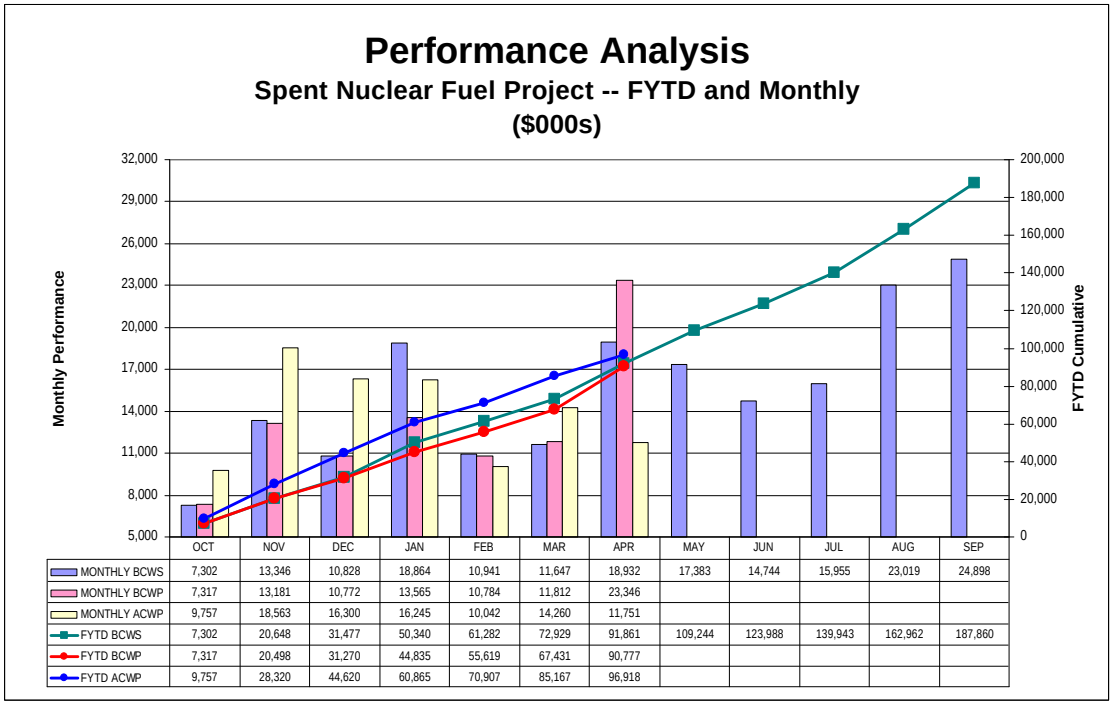
Cost Variance Analysis: (-$6.1M)

Spent Nuclear Fuel Project — 1.3.1/WM01
Description/Cause: The unfavorable cost variance is due to additional startup and engineering costs at the K Basins and CSB facility, and subsequent extension of the ORR process.
Impact: Costs will exceed funding without taking corrective action (see below).
Corrective Action: Staffing (and other cost reduction) measures are continuing to mitigate impacts.

COST/SCHEDULE PERFORMANCE (MONTHLY AND FYTD)



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
SV	0.2%	-0.7%	-0.7%	-10.9%	-9.2%	-7.5%	-1.2%					
CV	-33.3%	-38.2%	-42.7%	-35.8%	-27.5%	-26.3%	-6.8%					



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MONTHLY BCWS	7,302	13,346	10,828	18,864	10,941	11,647	18,932	17,383	14,744	15,955	23,019	24,898
MONTHLY BCWP	7,317	13,181	10,772	13,565	10,784	11,812	23,346					
MONTHLY ACWP	9,757	18,563	16,300	16,245	10,042	14,260	11,751					
FYTD BCWS	7,302	20,648	31,477	50,340	61,282	72,929	91,861	109,244	123,988	139,943	162,962	187,860
FYTD BCWP	7,317	20,498	31,270	44,835	55,619	67,431	90,777					
FYTD ACWP	9,757	28,320	44,620	60,865	70,907	85,167	96,918					

FUNDS MANAGEMENT
FUNDS VS SPENDING FORECAST ($000)
FY 2001 TO DATE

	Project Completion *			Post 2006 *			Line Items *		
	Funds	FYSF	Variance	Funds	FYSF	Variance	Funds	FYSF	Variance
The River									
1.3 **Spent Nuclear Fuel**									
WM01 **Operating**	$ 189,347	$ 188,889	458						
Line Item									
Total Spent Nuclear Fuel Operating	**$ 189,347**	**$ 188,889**	458						
Total Spent Nuclear Fuel Line Item									

*** Control Point**

ISSUES

Regulatory Issues

Issue: If the simplification of the CVD SAR is not approved, commitments to savings may not be achieved.
Impacts: Significant cost to maintain safety class systems will result.
Corrective Action: Continue working with RL staff in hopes of reaching agreement between DOE and the DNFSB.

Technical Issues, and External and DOE Issues and DOE Requests

Issue: Nothing to report at this time.
Impacts: None.
Corrective Action: None at this time.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

PROJECT CHANGE NUMBER	DATE ORIGIN.	BCR TITLE	FY01 COST IMPACT $000	SCH	TECH	DATE TO FH RMB	RMB APR'VD	RL APR'VD	CURRENT STATUS
SNF-2001-013	04/17/2001	Impact of Revised 10CFR 820 Requirements - Phase I		Y	Y	05/02/2001	05/02/2001	N/A	Approved
SNF-2001-015	04/23/2001	SNFP Phase I Activities of DOE Implementation Plan for DNFSB 2000-2	33	N	Y	05/02/2001	05/07/2001		In signature/review process

ADVANCE WORK AUTHORIZATIONS									
None									

KEY INTEGRATION ACTIVITIES

- SNF final disposition interface activities are ongoing with the National SNF Program, including Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance (QA) Program implementation.
- The SNF Project and Waste Management Project continued preparations for Shippingport (PA) Pressurized Water Reactor Core 2 SNF removal.
- The SNF Project and the River Corridor Project interfaced on 324 Building (B Cell) SNF removal.
- Neutron Radiography Facility Training Research and Isotope Production General Atomics (TRIGA) and Fast Flux Test Facility (FFTF) SNF relocation planning is ongoing with the FFTF Project.
- Activities continued for potential receipt of SNF discovered by Bechtel Hanford Inc. during upcoming 105F and 105H reactor basins deactivation at K Basins.
- The Sludge Handling Project and T Plant Operations continued preparations for K Basin sludge storage at T Plant.